Test Report
Aggregate Stripping Value

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Hot Mix Plant
Material	Coarse Aggregates / Bitumen
Sample No	1
Date	7-Apr-2018
Type of Aggregate	Coarse Aggregate
Type of Binder	60 / 70 Grade
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40°C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.6	3.5	96.5
2	3.5		
3	3.4		

Comments: **Minimum allowable Aggregate Stripping Value for Bituminous Concrete is 95%.**

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report

Specific Gravity and Water Absorption

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	7-Apr-2018

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	water	W_2g	2024	2022	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1263	1259	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2059	2047	
5	Aggregate	W_3- W_s	796	788	
6	Weight of Oven dried Aggregate	W_4g	2020	2018	
7	Specific Gravity	W_4/(W_3- W_s)	2.54	2.56	2.55
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.67	2.66	2.66
9	Water Absorption	(W_4- W_3)*100/ W_4	1.93	1.44	1.69

Comments: Maximum allowable Aggregate Water Absorption value for Bituminous Concrete is 2.0%.

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Bangalore

Test Report
Aggregate Gradation

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	9-Apr-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	ive Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Coñcrete
2	13.20	673	16.83	16.83	83.18	72-100	
3	9.50	432	10.80	27.63	72.38	70-88	
4	4.75	231	5.78	33.40	66.60	53-71	
5	2.36	476	11.90	45.30	54.70	42-58	
6	1.18	342	8.55	53.85	46.15	34-48	
7	0.60	436	10.90	64.75	35.25	26-38	
8	0.30	428	10.70	75.45	24.55	18-28	
9	0.15	381	9.53	84.98	15.03	12-20)	
10	0.075	362	9.05	94.03	5.97	(4-10)	

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Test Report
Aggregate Gradation

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	10-Apr-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	675	16.88	16.88	83.13	72-100	
3	9.50	434	10.85	27.73	72.28	70-88	
4	4.75	233	5.83	33.55	66.45	53-71	
5	2.36	478	11.95	45.50	54.50	42-58	
6	1.18	344	8.60	54.10	45.90	34-48	
7	0.60	438	10.95	65.05	34.95	26-38	
8	0.30	430	10.75	75.80	24.20	18-28	
9	0.15	383	9.58	85.38	14.63	12-20)	
10	0.075	364	9.10	94.48	5.53	(4-10)	

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Test Report
Aggregate Gradation

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	3
Date	11-Apr-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	ive Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
2	13.20	677	16.93	16.93	83.08	72-100	
3	9.50	436	10.90	27.83	72.18	70-88	
4	4.75	235	5.88	33.70	66.30	53-71	
5	2.36	480	12.00	45.70	54.30	42-58	
6	1.18	346	8.65	54.35	45.65	34-48	
7	0.60	440	11.00	65.35	34.65	26-38	
8	0.30	432	10.80	76.15	23.85	18-28	
9	0.15	385	9.63	85.78	14.23	12-20)	
10	0.075	366	9.15	94.93	5.08	(4-10)	

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Test Report
Stability of Mix

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	1
Date	11-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.6**	9 KN (min)
2	Marshal Flow	mm	**3.51**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.32**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**73**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

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Test Report
Stability of Mix

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	2
Date	11-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.7**	9 KN (min)
2	Marshal Flow	mm	**3.51**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.5**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**71.5**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

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Test Report
Stability of Mix

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	3
Date	11-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.7**	9 KN (min)
2	Marshal Flow	mm	**3.42**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.6**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**72.5**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

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Test Report
Stability of Mix

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	4
Date	12-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.8**	9 KN (min)
2	Marshal Flow	mm	**3.5**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.7**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**71.35**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

Note:

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Test Report
Stability of Mix

Project Name	Improvements of roads for layout where the Cauvery and UGD works are in progress in Ward No.05 and Ward No.06 Byatarayanapura Sub Division
Client	Executive Engineer Project Yellahanka Division
Job No	MCTPL/BBMP/Project Division Yelahanka ZONE /P-7/1/2017-2018
Mix Type	Bituminous Concrete (BC)
Contractor	Sri. R. Satheesh
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	5
Date	12-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.5**	9 KN (min)
2	Marshal Flow	mm	**3.4**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.85**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**70.1**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

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